

Amendments to the Claims:

1. (Currently Amended) ~~Magnetic~~ A magnetic resonance method for forming a dynamic image from a plurality of signals of an object moving relative to at least one RF receiving antenna, ~~whereas~~ wherein imaging is acquired by at least two adjacent fields of view (FOV), which are reconstructed to an image over a region of interest which includes ~~both~~ the at least two adjacent FOVs, wherein

[[-]] a sensitivity map of the at least one RF receiving antenna at each position relative to the object determined by each FOV is provided,

[[-]] data from the object to be imaged is ~~sampled~~ subsampled for each FOV with a reduced number of phase encoding steps with respect to the full set thereof at a fixed imaging position relative to the main magnetic field, and

[[-]] the image is reconstructed from the subsampled signals data, which are weighted with the sensitivity factor of the RF receiving antenna at the respective imaging position.

2. (Currently Amended) ~~Magnetic~~ The magnetic resonance method according to claim 1, wherein a single RF receiving antenna is used.

3. (Currently Amended) ~~Magnetic~~ The magnetic resonance method according to claim 1, wherein a single RF transmitting antenna is used, ~~whereas~~ wherein the size of the transmitting antenna is larger than the size of the receiving antenna.

4. (Currently Amended) ~~Magnetic~~ The magnetic resonance method according to claim 1, wherein a single RF antenna is provided for transmitting and receiving RF signals.

5. (Currently Amended) ~~Magnetic~~ The magnetic resonance method according to claim 1, wherein an array of RF receiving antennae is used.

6. (Currently Amended) A magnetic resonance imaging apparatus for obtaining a dynamic image from a plurality of signals of an object moving relative to at least one RF receiving antenna, comprising:

[[(-)] a patient table ~~[[(-)]~~ configured for movement through the bore of a magnet,

[[(-)] at least one RF receiving antenna,

~~—means for acquiring an image over a region of interest which includes at least two adjacent fields of view;~~

[[(-)] means for providing a sensitivity map of the at least one RF receiving antenna at each position relative to the object determined by each of at least two adjacent fields of view (FOV) prior to imaging,

[[(-)] means for sampling data from the object to be imaged for each of the at least two adjacent FOV FOVs with a reduced number of phase encoding steps with respect to the full set thereof at a fixed imaging position relative to the main magnetic field, and

[[(-)] means for reconstructing the an image from the subsampled sampled signals data, which sampled data are weighted with the sensitivity factor of the RF receiving antenna at the respective imaging position.

7. (Currently Amended) A computer ~~program product stored on a computer-usable~~ readable medium on which is stored a program for form=ing forming a dynamic image with the magnetic resonance method, ~~comprising a computer readable program~~ means for by causing the a computer to control the execution of:

[[(-)] moving a patient table for through the bore of a magnet which operates a main magnetic field,

[[(-)] sampling data from at least one RF receiving antenna array,

~~—acquiring an image over a region of interest which includes at least two adjacent fields of view;~~

[[(-)] providing a sensitivity map of the at least one RF receiving antenna array at each position relative to the a region of interest of an object ~~determined by each~~ which region of interest includes at least two adjacent fields of view (FOV) prior to imaging,

[[-]] sampling data from the object to be imaged for each of the at least two FOV FOVs with a reduced number of phase encoding steps with respect to the full set thereof at a fixed position relative to the main magnetic field, the sampled data of each FOV being folded into sampled data of an adjacent FOV, and

[[-]] reconstructing the image from the ~~subsampled~~ sampled signals, ~~which are weighted~~ including weighting with the sensitivity factor of the RF receiving antenna array at the respective imaging position and unfolding the folded data.

8. (New) The magnetic resonance method according to claim 1, wherein the data sampled for one of the FOVs is folded into data sampled for an adjacent one of the FOVs.

9. (New) The magnetic resonance method according to claim 8, wherein reconstructing the image includes:

using the folded data in the one of the FOVs and the sensitivity map to unfold the folded data in the adjacent one of the other FOVs.

10. (New) The magnetic resonance method according to claim 8, wherein reconstructing the image includes:

unfolding the folded data in one adjacent FOV in accordance with the folded data in the other adjacent FOV and the sensitivity map; and
splicing the unfolded data from the adjacent FOVs together.

11. (New) The magnetic resonance method according to claim 8, further including:

applying a phase increment to a receiver demodulation frequency for each of the encoding steps to move a folded region of at least one of the FOVs from a center edge to an outer edge.

12. (New) The magnetic resonance method according to claim 8, further including:

correcting for geometric distortion by warping or morphing pixels in accordance with magnetic homogeneity and gradient coil linearity.

13. (New) The magnetic resonance method according to claim 12, further including:

masking a portion of the folded data prior to correcting for geometric distortion.

14. (New) The magnetic resonance method according to claim 8, wherein an RF transmitting antenna and an array of RF receiving antenna are fixed relative to each other and further including:

moving a first region of the object into alignment with the array of RF receive coils;

with the first region of the object stationary and in alignment with the array of RF receive coils, sampling the data for a first of the at least two FOVs;

moving an adjacent region of the object into alignment with the array of RF receive coils and the first region out of alignment;

with the second region of the object stationary and in alignment with the array of RF receive coils, sampling the data for a second of the at least two FOVs, the data sampled from the first and second FOVs being folded into each other.

15. (New) The magnetic resonance method according to claim 1, wherein a phase encoding direction is oriented along a direction of object movement.

16. (New) The magnetic resonance imaging apparatus according to claim 6, wherein the RF receiving antenna includes an array of coils spanning a first length that is shorter than the object and further including:

an object support configured to move regions of the object corresponding to the fields of view step-wise into alignment with the RF receiving antenna.

17. (New) The magnetic resonance imaging apparatus according to claim 16, wherein the sampled data from each FOV is folded into an adjacent FOV and wherein the image reconstructing means unfolds the folded data using the sensitivity map and folded data from the adjacent FOV.

18. (New) The magnetic resonance imaging apparatus according to claim 17, wherein the data sampling means applies a phase increment to a receiver demodulation frequency for each of the phase encoding steps.

19. (New) The magnetic resonance imaging apparatus according to claim 16, wherein a phase encoding direction is oriented along a direction of object movement.

20. (New) The computer readable medium according to claim 7, wherein the program further applies a phase increment to a receiver demodulation frequency for each of the phase encoding steps.